

Final Report

NASA Grant NAG5-1651

ROSAT Guest Investigator Program (AO-1)

On A Search for Coronal X-ray Emissions
from White Dwarfs

Z. E. Musielak

University of Alabama in Huntsville

March 1992

OBSERVATIONS AND DATA ANALYSIS

We have suggested that cool magnetic white dwarfs may be sources of X-ray coronal emission and proposed several prominent candidates for this emission. One of this candidates (EG 250) was approved for the C-category observation by the National and International Committee and was observed by ROSAT on April 17, 1991. Unfortunately, the granted exposure time (1071 s) was much shorter than that which was required by theoretical predictions to observe coronal X-ray emission from this object. The tape containing the data was sent to us in November 1991. Since then we have analyzed the data visiting the ROSAT Science Center at NASA Goddard Space Flight Center. The analysis of the data taken during this short observation show, as expected, no X-rays. It is our hope that EG 250 will be observed again during the AO-2 phase of pointed observations,

N94-13171

Unclass

G3/90 0180215

(NASA-CR-193654) ROSAT GUEST
INVESTIGATOR PROGRAM (AO-1). ON A
SEARCH FOR CORONAL X RAY EMISSIONS
FROM WHITE DWARFS Final Technical
Report, period ending Jun. 1992
(Alabama Univ.) 2 p

10/13/96
11
10/13/96

11/11/92
11-10-1992
11-10-1992
12 2

as 10,000 s of observing time was granted to V. Trimble for the C-category observation of this star. We have a close contact with Dr. Trimble regarding this matter.

The P.I. used this grant to pay one month of his salary while performing the data analysis. In addition, he visited the ROSAT Science Center in February 1992.

Because our all targets (GD 90, KUV 2316-123 and GD 356) proposed for the observation during the AO-2 phase of pointed observations have been approved by the National and International Committee, we have installed the required software at NASA/MSFC to be able to carry out the data analysis in Huntsville. Two of our targets have already been observed (KUV 2316-123 was observed on Dec. 3, 1991 with 10,000 s of the exposure time, and GD 356 was observed on Jan. 4, 1992 with 5,000 s of the exposure time). We just received the data and will begin the analysis soon. The results of our analysis twill be reported to the scientific community by publishing papers in the *Astrophysical Journal Letters*. Our intention is to submit a paper when the analysis of the data taken during AO2 is completed. The data taken during the observation of EG 250 will be a part of this paper.